Document 00910

ADDENDUM NO. 1

Date of Addendum: 4/15/13

PROJECT NAME: Proposed 66-Inch Water Line along Almeda Genoa Road and Monroe Road from Moers Road to Airport Boulevard

PROJECT NO: WBS No. S-000900-0104-4

BID DATE: April 18, 2013 (There is no change to the Bid Date.)

FROM: J. Timothy Lincoln, P.E., City Engineer
City of Houston, Department of Public Works and Engineering
Houston, Texas 77002
Attn: *Arthur C. Morris, P.E.*, Project Manager

TO: Prospective Bidders

This Addendum forms a part of the Bidding Documents and will be incorporated into the Contract documents, as applicable. Insofar as the original Project Manual and Drawings are inconsistent, this Addendum governs.

This Addendum uses the change page method: remove and replace or add pages, or Drawing sheets, as directed in the change instructions below. Change bars (|) are provided in the outside margins of pages from the Project Manual to indicate where changes have been made; no change bars are provided in added Sections. Reissued Drawing Sheets show the Addendum number below the title block and changes in the Drawing are noted by a revision mark and enclosed in a revision cloud.

CHANGES TO PROJECT MANUAL

SPECIFICATIONS

1. Section 01110 – Summary of Work. Replace Entire Section.

2. Section 02518S – Steel Pipe and Fittings for Large-Diameter Water Lines. Replace Entire Section.

CHANGES TO DRAWINGS

1. Sheet 52 – Revise the following call out, "PROP 110 LF 66" STEEL WATER LINE (3/8" THICK) IN STEEL CASING" to "PROP 110 LF 66" STEEL WATER LINE IN STEEL CASING".

2. Sheet 53 – Revise the following call out, "PROP 110 LF 66" STEEL WATER LINE (3/8" THICK) IN STEEL CASING" to "PROP 110 LF 66" STEEL WATER LINE IN STEEL CASING".

3. Sheet 138B - Revise the following note on Detail 3 of 138B, from "3. Coating on the pipe at Coupling to be used as per coupling manufacturer recommendation" to "3. Coating on the pipe at coupling shall be flexible coating in accordance with section 02518 and as per coupling manufacturer recommendation. Hold back of mortar coating at joints will be allowed."

4. Sheet 138B - Add the following note to Detail 3 of 138B, "4. Coupling material should match the pipe material to which it is being connected."

5. Sheet 138B - Add the following note to Detail 3 of 138B, "5. Coupling with manufacturer applied fusion bonded epoxy coating material is approved. In addition to the manufacturers coating field wrap with heat shrink sleeve, in accordance with Section 02518."

6. Sheet 138C – Delete the following note, "8. FAULT ZONE BACKFILL LIMITS SEE TABLE 1."

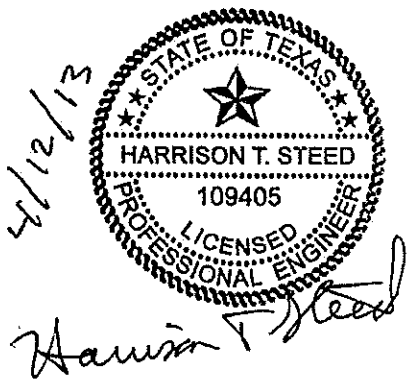
7. Sheet 147 – Remove the following "Rectifier Information (option 1 only steel pipe)" Table and Replace with:

PIPE MATERIAL	RECTIFIER No.	STATION No.	SIZE OF RECTIFIERS (VOLTS/AMPS)	No. OF ANODES	ANODE WELL DEPTH	ACTIVE LENGTH	INACTIVE LENGTH
DIELECTRIC COATED STEEL PIPE	1	53+35 (Monroe Road)	20 V/ 10 A	3	100	50 FT	50 FT
CEMENT MORTAR COATED STEEL PIPE	1	91+18 (Monroe Road)	30 V / 25 A	8	180	127 FT	53 FT
	2	53+35 (Monroe Road)	30 V / 25 A	8	180	127 FT	53 FT
	3	15+53 (Monroe Road)	30 V / 25 A	8	180	127 FT	53 FT

8. Sheet 147 – Remove the following "Rectifier Information (option 2 steel pipe and PCCP pipe)" Table and Replace with:

PIPE MATERIAL	RECTIFIER No.	STATION No.	SIZE OF RECTIFIERS (VOLTS/AMPS)	No. OF ANODES	ANODE WELL DEPTH	ACTIVE LENGTH	INACTIVE LENGTH
DIELECTRIC COATED STEEL PIPE	1	53+35 (Monroe Road)	20 V/ 10 A	3	100	50 FT	50 FT
CEMENT MORTAR COATED STEEL PIPE	1	95+00 (Monroe Road)	30 V / 25 A	8	180	127 FT	53 FT
	2	64+00 (Monroe Road)	30 V / 25 A	8	180	127 FT	53 FT
	3	36+00 (Monroe Road)	30 V / 25 A	8	180	127 FT	53 FT
PRESTRESSED CONCRETE CYLINDER PIPE	1	7+95 (Monroe Road)	35 V/ 30 A	8	250	127 FT	123 FT

END OF ADDENDUM NO. 1



DATED: 4/12/13

Ravi Kaleyatodi, P.E., CPM
Senior Assistant Director
Department of Public Works and Engineering

RK:HH:ACM:JP:bk

Section 01110
SUMMARY OF WORK

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Summary of the Work including Work by the City, City-furnished Products, Work sequence, future Work, Contractor use of Premises.

1.02 PROJECT DESCRIPTION

A. Surface Water Transmission Program (SWTP) consists of major improvements to transmission system to convert from primarily groundwater to surface water in order to comply with the Harris-Galveston Coastal Subsidence District's (HGCSD) regulatory plan. Program includes transmission and distribution of surface water and associated consolidation of groundwater plants in the City.

B. The project is a combination of water line construction, public utility adjustments and paving which connects to City of Houston project WBS No. S-000900-0103 (Contract 70A-3) on Moers Road and Almeda-Genoa Road, then extends west along Almeda-Genoa Road to Monroe Road, then north along Monroe Road to Airport Boulevard.

1.03 WORK COVERED BY CONTRACT DOCUMENTS

This work will include, but not be limited to, the following:

A. Construction of approximately 11,330 LF of 66-inch water line by combination of open cut and tunneling; including valves, connections and appurtenances along Almeda-Genoa and Monroe Road from Moers Road to Airport Boulevard.

B. Proposed 66-inch water line alignment includes crossing of seven (7) geologic fault crossings along Monroe Road.

C. Geological Fault Crossing

1. The following seven areas have been identified as geologic fault zones. Refer to Phase I geologic fault investigation by Aviles Engineering Corporation for additional information regarding results:

    a. Fault 25 crosses Monroe Road between Airport Boulevard and Almeda Genoa Road approximately at STA 33+00.
    b. Fault 20 crosses Monroe Road approximately 160 feet north of

the centerline of Scranton Street at STA 67+35.

c. Fault 15 crosses Monroe Road approximately 875 feet north of the centerline of Scranton Street at STA 74+50.
d. Fault 16B crosses Monroe Road approximately 920 feet south of the center line of Panair Street at STA 88+40.
e. Fault 16A crosses the centerline of Monroe Road approximately 640 feet south of the centerline of Panair Street at STA 91+20.
f. Fault 21 crosses Monroe Road approximately 70 feet north of the center line of Panair Street approximately at STA 98+30.
g. Fault 10 crosses Monroe Road centerline approximately 400-600 feet south of the centerline of Airport Boulevard at STA 105+00.

2. Installation directions.
   a. Install 66-inch water line within fault zones using steel pipe in accordance with Drawings. See Sheet "Fault Detail 1" in Drawings for additional information.
   b. Provide coating for 66-inch steel water line near couplings per coupling manufacturer recommendation in accordance with specification section 02518. Hold back of mortar coating at joint will be allowed.
   c. Install 66-inch Depend-O-Lok FxF Type 2 modified restrained dynamic couplings at each fault crossing. See Drawings to information on installation locations.

3. Line trench within fault zone using TxDOT DMS 6200 Type 2 geotextile filter fabric. Embed water line and casing pipe using a 1 to 1 mix of TxDOT Item 247 Type A, Grade 2 base material and ASTM C33 bank sand. The material should be compacted to 95 percent of its ASTM D698 maximum dry density at moisture content within ±2 percent of optimum. The bedding material should be brought up to at least 24 inches above the crown of the pipe.

4. Compacted select fill should then be used above embedment for a minimum thickness of at least two feet thick to provide an impervious barrier so that surface water does not infiltrate into the pipe trench. The select fill material should be uniform, clean, sandy lean clay/ lean clay material with a plastic index between ten and twenty and at least 50 percent passing a No. 200 sieve. The select fill shall be placed in four inch loose lifts and compacted to 95 percent of its ASTM D698 maximum dry density at moisture content between optimum and three percent above optimum. For trench areas beneath pavement, the top six inches of select fill at the ground surface should be stabilized with at least five percent hydrate lime (by dry weight).

5. Contractor shall make sure the restraint rings are located on the pipe end correctly according to manufacturer's specifications and that the

attachment welds comply with weld requirements.

6. Couplings shall be installed in the contracted position to allow for maximum expansion potential.

7. See 2.01C for alternate pipe material for the fault crossings.

D. FAA Loading Waterline, Manholes, Manhole Covers

1. Provide 66-inch Steel Waterline with restrained joints, Precast Manholes, and Manhole Covers which meet the FAA live loading requirements per Specification Sections 02082 and 02518 between Station 20+00 to Station 110+10 (End) along Monroe Road. See drawings, details and specifications of more information.

E. Construction of approximately 37 linear foot tunnel across 24-inch TEPPCO Pipe line to avoid potential open cut conflicts.

1. Unless otherwise approved by Project Manager, perform tunneling from southern limit of tunnel.
2. Perform tunnel excavation using a Tunnel Boring Machine utilizing full shielding and with close face capabilities.
3. Due to anticipated subsurface conditions, limited ability to dewater tunnel excavation will exist.
4. Provide specific instrumentation monitoring plan, in accordance with Section 02425(LD) Tunnel Excavation and Primary Liner. Submit the monitoring plan and locations of instrumentation to Project Manager for approval.
5. See Paragraph 1.09 for more instructions.

F. Construction of approximately 120 linear foot tunnel in steel casing and 170 linear foot open cut in steel casing across HCFCD Channel C106-01-00 with 3-6'x7' Box Culvert Bridge, Ultimate HCFCD R.O.W. and large diameter storm sewer across Meldrum Ln on Monroe Road Construction of approximately 20 linear foot tunnel in steel casing and 70 linear foot open cut in steel casing HCFCD Channel C106-01-02 with 6'x8' Box Culvert Bridge between Larson Street and Panair Street on Monroe Road

G. Construction of 60 linear foot tunnel across 42-inch MRC sanitary to avoid potential open cut conflicts and provide access to Scranton Street.

H. Construction of approximately 110 linear foot tunnel across Panair Street to provide positive traffic flow for surrounding rental car facilities and crossing 10-inch Shell pipe line.

I. Removal and replacement of storm sewer pipe and sanitary sewer pipe impacted by installation of 66-inch water line.

J. Removal and replacement of mostly one lane of concrete pavement along Almeda-Genoa west bound lanes from Moers Road to Monroe Road removal and replacement of mostly two lanes of concrete pavement north bound lanes from Almeda-Genoa to just south of Airport Boulevard.

1.04 DEFINITION

A. Large Diameter Water Lines: Water Lines 24-inches in diameter and larger. References to large diameter water lines shall apply to pipe, valves and appurtenances 24-inch and larger.

B. Small Diameter Water Lines: Water Lines 20-inches in diameter and smaller. Unless otherwise noted in the Contract Documents, requirements pertaining to large diameter water lines do not apply to pipe, valves and appurtenances 20-inches in diameter and smaller.

1.05 CASH ALLOWANCES

A. Include the following specific Cash Allowances in the Contract Price under provision of Document 00700 - General Conditions, Paragraph 3.11.

1. Street Cut Permit. Allow stipulated sum of $ 5,000 for Street Cut Permit Application Fee(s) as described in Paragraph 1.12.

2. The street lighting (Re-Bore Circuit/pull box/light installation) up front cost of $ 15,000 is to be provided to the Contractor. Contractor to pay CenterPoint Energy for street lighting installation.

3. Floodplain Management Permit Office. Allow stipulated sum of $ 2,500 for the cost to obtain floodplain permit from city of Houston for the 66-inch water line.

1.06 INCENTIVE ALLOWANCES (Not Used)

1.07 CITY FURNISHED PRODUCTS

A. Item Furnished by City for Installation and Final Connection by Contractor:

1. None

1.08 WORK SEQUENCE

A. Perform critical locates per Contract Drawings within 30 days from Notice to Proceed. Field verify dimensions and conditions before commencing work. Report any discrepancies to Project Manager before commencing work. Submit documentation of work completion to Project Manager.

B. Due to overall project complexity and numerous active utility interface requirements, submit a sequence of construction for review by Project Manager. Proposed sequence of construction shall address proposed method and timing of major construction activities. Refer to Section 01325 – Construction Schedule (Bar Chart) for specific details.

C. Begin Work on the project from the southern limits of project and work towards west on Almeda Genoa Road to Monroe Road and north on Monroe Road to Airport Boulevard.

D. Incorporate Traffic Control Plan and Traffic Control General Notes as shown in the construction drawings in proposed sequence of work.

E. Provide temporary asphalt pavement along the alignment as shown in the drawing to facilitate traffic movement during construction.

F. Repair or replace, existing PVC drain lines encountered or disturbed by work. No separate pay item.

G. Verify with Project Manager, proposed locations of vent piping prior to installation. Adjust locations as directed. No separate pay. Mount vent piping for air release valves on a single bollard, if directed by Project Manager.

1.09 COORDINATION OF WORK

A. Schedule the Work with any other contractors of any trade of discipline working adjacent to the project site prior to and during construction. Schedule Work and connection with contractor performing Work for City of Houston Project WBS No. S-000900-0103-4 (70A-3: 66-inch Water Line along Moers Road from Proposed Moers ROW to Almeda-Genoa).

B. If contractor constructing this project, WBS No. S-000900-0104-4 (70A-4) completes Work and is ready to chlorinate and test before contractor constructing 70A-3, then provide dished head plug. Cost for providing dished head plug is incidental to the 66-inch water line. If contractor for 70A-3 has completed work and has already installed dished head plug, then remove dished head plug and make connection to existing 66-inch water line.

Payment to be made under appropriate bid item listed in Document 00410 – Bid Form.

C. Schedule construction operations with City Project Manager, Traffic Management, Maintenance Division, and private utilities.

D. Following is a list of contacts for pipeline companies who are impacted by the Work:

1. TEPPCO
   A minimum of 48 hours (excluding weekends and holidays), prior to commencing construction or boring operations of the water line around 24" TEPPCO (Enterprise) pipeline, call 1.800.344.8377 (1-800-DIG-TESS) so that a TEPPCO (Enterprise) employee can be present for observation and safety purposes.

2. SHELL
   Contact Mr. Gerald B. Carabajal, Maintenance Supervisor at 713.423.3384, of SHELL'S maintenance department in Pasadena, Texas at least 48 hours (excluding weekends and holidays) prior to commencing any excavation or construction activity in the vicinity of 10" SHELL pipeline, if unable to contact the above shell representative, contact the pipeline control center, at 1-800-852-3602 and the information will be relayed. In addition Texas one call notification center must be contacted at 1-800-344-8377 least 72 hours (excluding weekends and holidays), prior to commencing construction.

3. HOUSTION PIPE LINE CO. (Abandoned 18" High Pressure Gas Line)
   Texas one call notification center must be contacted at 1-800-344-8377 least 72 hours (excluding weekends and holidays), prior to commencing construction.

E. Coordination of the Work: Refer to Section 01312 – Coordination and Meetings.

F. Harris County Flood Control District (HCFCD) Property Management Department shall be notified in writing at least 48 hours prior to construction, copies of the Preconstruction Notification, the approved plans and all applicable permits are required at this time. (If a non flood control feature is proposed, a copy of the fully executed interlocal agreement for maintenance of the non-flood control feature is also required).

G. Schedule testing and inspection of cathodic protection system and protective coatings for pipe, valves, and tanks with the City's independent consultant. Contact Wayne Dessens at 832-395-3833.

H. FAA Airport Permit: Permit to Determination of no hazard to air navigation for temporary structures expires on 09/02/2013. For the extension of permit co-ordinate with FAA and E-file application at least 15 days prior to expiration date.

1.10 CONTRACTOR USE OF PREMISES

A. Comply with procedures for access to site and Contractor's use of rights-of-way as specified in Section 01145 - Use of Premises

B. Construction Operations: City's rights-of-way and existing easements.

C. Utility Outages and Shutdown: Provide notification to City and private utility companies (when applicable) a minimum of 48 hours, excluding weekends and holidays, in advance of required utility shutdown. Schedule all work as required. Submit for review and approval proposed plan for outages and shutdown minimum of 14 days prior to proposed scheduled outages/shutdown. Conduct coordination meeting with City and other affected parties minimum of seven (7) days prior to proposed outage/shutdown.

D. Work to be done to lines, grades, elevations, and locations as shown on Drawings.

E. Existing 42-inch monolithic reinforced concrete (MRC) sanitary sewer existing along center of esplanade, from Tavenor Road to Scranton Street. Prevent overstress of any structure, and any part or member of 42-inch MRC during construction. This applies to existing work and structures affected by operations. Check effect of operations in this regard, and provide temporary supports and connections required to assure safety and stability to prevent overstress on any part of the 42-inch MRC and other structure, no separate pay item.

F. Coordinate activity schedule and extend full cooperation to other contractors who have responsibilities either concurrent with, preceding, or following this Contractor's time along work site. Ensure availability of access, availability of selected portions of this area to others and provide appropriate information for planning purposes to other contractors.

G. Traffic Control:

1. Traffic control plan responsive to Texas Manual on Uniform Traffic Control Devices (TMUTCD) and sealed by Registered Professional Engineer is incorporated into Drawings. If traffic control will be implemented without modification to plan provided, submit letter confirming that decision. If traffic control will be modified from what is shown, submit traffic control plan in conformance with TMUTCD and sealed by Registered Professional Engineer.

2. Traffic Control Plan is provided for installation of water lines only. Specific traffic control plan required for pavement restoration must be provided by Contractor, sealed by Registered Professional Engineer and conforming to TMUTCD. Submit traffic control plan to Project Manager for approval.

3. Traffic control provided is based on assumption there is no conflict with traffic control from separate projects within construction limits. Adjust work sequence as necessary to prevent traffic control conflicts, or submit revised traffic control plans sealed by Registered Professional Engineer and conform to TMUTCD at no additional cost. Submit traffic control plan to Project Manager for approval.

4. For temporary pavement provide necessary backfill, subgrade, base and surface in accordance with Traffic Control Plan and continuously maintain, as directed by Project Manager.

5. Do not impede flow in roadside ditches with temporary pavement.

6. Modifications to Traffic Control Plan included in Drawings, specific Traffic Control Plan for pavement restoration with drainage, and adjustment in work sequence as necessary to prevent traffic control conflicts, require a submission of revised traffic control plans sealed by Registered Professional Engineer and conform to TMUCD at no additional cost. Submit plan to Project Manager for approval.

7. Refer to Traffic Control Plan General Notes for further instruction.

H. Work will be allowed which pertains to any tunneling operation 24 hours per day, provided above ground activities do not conflict with provisions of City of Houston Code of Ordinances, Section No. 40-28 and work does not occur on a Sunday or holiday without prior written approval. No night work shall occur in residential areas. A non-inclusive list of work pertaining to tunneling operation is as follows:

1. Tunnel Excavation and incidental work such as muck removal and hauling, ventilation, lighting, survey control of tunnel line and grade, etc.

2. Tunnel Primary Liner.
3. Ground Water Control and Ground Stabilization.
4. Pipe Installation.
5. Tunnel Grouting.

Project Manager will answer all questions where confusion may exist as to whether any such work pertains to tunneling operation.

I. Implement groundwater control methods, while maintaining accessibility to driveways and cross streets.

J. Maintain local driveway access to residential and commercial properties adjacent to work areas. Provide temporary driveway access to driveways in accordance with Section 01555 – Traffic Control and Regulation and Section 01145 – Use of Premises. Coordinate with business owners and residents.

K. City's Utility Maintenance Division is not bound to assist Contractor in locating existing utilities during construction. Contractor must verify location of existing utility lines prior to commencement of pipe laying operations.

L. Working multiple and separate crews during construction is allowed, as approved by Project Manager.

M. Field Office:

1. A Field Office is required on this project. See Section 01520 – Temporary Field Office.

N. Protect existing street lights and power poles along project limits. Support as required to accomplish Work. Reestablish power to lights within 24 hours should power be disrupted. No separate pay item.

O. Unmetered fire protections for businesses are not shown in Contract Drawings. Buildings shall retain fire protection flows at all times. Contractor shall notify City Fire Department Marshal and Project Manager 48-hours in advance of intended transfer of any metered or unmetered fire protection services. No separate pay.

1.11 STREET CUT ORDINANCE

A. Excavations on or under pavement in the City's right-of-way must have a permit. Comply with City of Houston, Texas Ordinance No. 2000-1115, an ordinance amending Chapter 40 of the Code of Ordinances, Houston, Texas, relating to excavating in the Public right-of-way and comply with amendments provided by Texas Ordinance No. 2006-0595 including the following fee schedule:

Schedule of Permit Application Fees*

Initial Application Fee:	
Tunneling, Jacking and Boring only	$150.00
All other Methods of Excavation	$200.00
Administrative Fee	$200.00
Permit Extension Application Fee:	
Other Than Steel Plate Temporary Surface	$ 30.00
Steel Plate Temporary Surface	$ 55.00
Data Entry Fee for Non-Electronic Submission (per application):	$ 55.00

* All fees/charges are non-refundable

Comply with the latest edition of street cut "New Pavement Repair and Pavement Replacement details".

Contractor shall comply with requirements from Chapter 12 of the City of Houston's Infrastructure Design Manual (dated July, 2012), entitled Street Cut Requirements".

B. Bid items for cost of street cut pavement repair and replacement identified on the drawings are included in Bid Form Part B (Document 00410 B).

C. Obtain all required permits and signs prior to performing any methods of construction involving street excavation in the existing pavement.

1.12 WARRANTY

A. Comply with warranty requirements in accordance with Document 00700 General Conditions.

1.13 INTERPRETATION OF CONFLICTS

A. Should conflicts occur in Contract Documents, request interpretation before proceeding with Work. Such requests shall first be preceded by a diligent investigation into Contract Documents. Contain evidence of such investigation in requests for interpretation.

1.14 GENERAL CONSTRUCTION NOTES

A. Notify Utility Coordinating Committee at 1-800-669-8344 or (713) 223-4567, and City of Houston Department of Public Works and Engineering, Civil Construction via fax (832) 394-9620, at least 48 hours prior to commencement of work.

B. Field verify existing facilities shown on Drawings by whatever means necessary (metal detection, probes, excavation, survey, others) prior to excavation for proposed utilities. Field verification work and utility adjustments shall be completed prior to excavation for proposed utilities. No separate pay item.

C. Call Traffic Management and Maintenance Division of City of Houston Public Works and Engineering Department when work is scheduled near signal conduits within City of Houston (713) 881-3179 or (713) 803-3070 Call at least five working days in advance.

D. These plans and surveys upon which they are based are tied into official City of Houston survey system in compliance with ordinance No. 69-1978. City of Houston survey markers and monuments referenced have been included in Drawings.

E. Comply with OSHA Regulations and State of Texas laws concerning excavation, trenching and shoring as specified in City of Houston Ordinance No. 87-1457.

F. Any pavement (such as wheel chair ramps, pavement curbs, sidewalks, driveways, bikeways, etc.), fences, gates, lawns, irrigation utilities, landscapes, culverts, inlets, manholes, signs or mail boxes and other improvements that have been disturbed due to utility construction shall be replaced with same quality material or better, according to City of Houston standard specifications. Contractors are required to bid accordingly.

1.15 EXISTING UTILITIES

A. Underground utilities exist in vicinity of this project. While every effort has been made to show locations for existing utilities, they are approximate and other utilities may exist in vicinity of this project, which are not shown on these plans. The location and grades of existing utilities are based on as-built information. Field determine location prior to commencing construction.

B. Public and private utility lines and customer service lines may exist not shown on construction drawings. Locate, maintain and protect the integrity of these lines. Hand excavation may be required. Anticipate such service lines exist and repair them if damaged during construction. No separate pay will be made for repairs.

C. Coordinate with proper utility company to relocate or divert any utility in conflict with proposed construction so as not to disrupt service of same. Restore relocated or diverted utility to its original condition and location upon completion of construction.

D. Do not interrupt existing water service. Construct proposed water lines and transfer service per City of Houston requirements prior to commencement of any underground construction that may interfere with existing water service.

E. Maintain existing water service and sanitary sewer service within construction area until construction of new system is complete.

F. Verify sizes of water meters that are found in field.

1.16 WATER LINES

A. This project shall be built by means of open-cut and tunneling as noted on Drawings.

B. Water lines shall be constructed in accordance with current City of Houston specifications for large diameter water lines.

C. All utilities present on these drawings are shown at approximate locations based on best available information. The contractor shall field determine the exact locations prior to commencing construction. Protect and support existing utilities and structures along alignment as necessary for construction. He or she shall be fully responsible for any and all damages caused by his or her failure to exactly locate and maintain these underground utilities, at no additional cost to City of Houston.

D. Small Diameter Water Lines

1. Trenchless construction method will be used for water line construction unless otherwise shown on the construction drawings and project manual or otherwise instructed by Project Manager. Whenever possible, make effort to locate pits away from existing concrete or asphalt pavement, sidewalks, driveways, fences, culverts, inlets, manholes, power poles, light poles, trees, lawns, landscapes, existing structures and other improvements. No pits are allowed within driveways, canopy of 6-inch or larger trees or landscapes unless otherwise instructed by the Project Manager.

2. Conduct all construction operation under this contract in conformance with erosion control practices described in Document 01410 "TPDES Requirements" and Document 01570 "Storm Water Pollution Control" and Storm Water Pollution Prevention Plans included Appendix A. Work identified in this project falls under Small Construction Activity with area disturbed to be one or more acres but less than five acres. TPDES requirements applicable to Small Construction Activity will apply.

3. Any pavement (including wheel chair ramps, pavement curbs, sidewalks, driveways, bikeways, etc.), fences, gates, lawns, irrigation utilities,

landscapes, ditches, culverts, inlets, manholes, signs or mail boxes and other improvements that have been disturbed due to utility construction shall be replaced with same quality material or better, according to City of Houston standard specifications. Contractors are required to bid accordingly.

4. Maintain minimum of 9-foot horizontal clearance from outside wall of water line to outside wall of sanitary sewer line.

1.17 STORM SEWER

A. Maintain adequate drainage at all times during construction and restore any drainage ditch or structure disturbed during construction to satisfaction of owning authority. Construction storm runoff shall comply with final draft of Storm Water Management Handbook for construction activities, as prepared by Harris County, HCFCD and City of Houston in compliance with NPDES requirements.

B. During any storm sewer and/or lead replacement, pull to last full joint.

C. Remove siltation in existing and proposed storm sewer systems (if necessary) that result from construction activities associated with this project.

D. Existing improvements/conditions associated with culverts, wing-walls, headwalls and other end treatments, shall be maintained, if not shown on Drawings to be removed, or replaces to equal or better conditions including quality of materials.

1.18 SANITARY SEWER

A. The contractor is fully responsible for damages to existing sanitary sewer facilities as a result of this project. Construct sanitary sewers in compliance with latest City specifications for sewer construction, and tested as specified in City test procedure for either liquid or air, including all amendments and revisions thereto. Place embedment and backfill for sanitary sewers in accordance with City of Houston standard drawing unless otherwise noted.

B. Maintain service to all sewers during construction. Contractor is responsible for locating all sanitary sewer service laterals affected by construction. City does not warranty location or number or any sanitary leads shown in Drawings.

C. If damaged sanitary sewer line is being replaced as result of construction, transfer of service stubs from existing to proposed sanitary sewer must be

included. Remove and replace any stubs determined to be damaged by project inspector to right-of-way line.

D. Cost of Diversion pumping to replace existing sanitary sewer and reroute sanitary sewer due to proposed water line is incidental to the project cost. Cost of saw cut, adopters and other fittings for remove and replace existing sanitary sewer line, connecting to existing sanitary sewer manhole is incidental to proposed sanitary sewer. Cost of plugs to remove existing sanitary sewer is incidental to remove and dispose existing sanitary sewer.

1.19 PAVEMENT REPLACEMENT

A. Contract Drawings identify pavement to removed and replaced.

B. Contractor's Trench Safety System (reference Section 02260), special shoring (reference Section 02317, 1.08, 3.04D, 3.05F, H & I), and means and methods shall protect adjacent lanes of pavement that are not scheduled for removal and replacement. Assume risk for damaged pavement and, unless otherwise directed by City, remove and replace damaged pavement in accordance with Section 02951 and Street Cut Ordinance at no additional cost to City. Damage includes but is not limited to pavement cracks, chipped or broken pavement, and voids under adjacent pavement that is to remain. City may also assess additional costs to Contractor related to damaged pavement such as City laboratory testing and inspection.

C. Where work requires cutting existing pavement, provide positive shoring extending minimum of 6-inches above pavement surface.

D. Unless otherwise directed by City, provide full-depth saw-cut 2-inch maximum away from pavement construction joints (ex., deformed metal joints, tooled joints, partially saw cut joints, etc.). Saw cut Minimum distance from joint necessary for clean straight edge, and if joint is at crown, saw cut as close to crown as possible.

E. Dowels at existing expansion joints shall be saw cut to eliminate possible damage to adjacent pavement scheduled to remain. The cost for this saw cut is incidental to pavement removal and disposal pay item(s).

F. If existing pavement thickness is less than 7-inches thick, the dowels will be deleted and the Non Doweled Joint detail will be used instead, unless directed otherwise by City.

G. Pavement that is scheduled to be removed and replaced shall be removed no earlier than fourteen (14) days prior to excavating to install new utilities and/or pavement.

1.20 STORM WATER POLLUTION PREVENTION PLAN

A. Storm Water Pollution Prevention Plan for this project is governed by Section 01410 TPDES Requirements, Document 01570 "Storm Water Pollution Control" and the layouts provided in the construction drawings. Comply with Storm Water Pollution Prevention Plan as detailed in construction documents.

1.21 ALTERNATE CONSTRUCTION METHODS

A. Alternate construction methods will be allowed in accordance with applicable details and specifications in Contract Documents at no additional cost to City of Houston provided City will receive substantial benefit from alternate construction method(s). Contractor accepts responsibility for all additional cost of geotechnical investigations and incidental items, including any re-design that may be necessary. Submit following for review by City Engineer prior to commencement of any construction activity if such alternate construction methods are to be considered. All modifications as listed below must be signed and sealed by a Licensed Professional Engineer registered in State of Texas prior to submittal to City Engineer.

1. Revisions to horizontal or vertical alignment.
2. Revisions to access manhole details, if applicable.
3. Revisions to line valve and operator manhole details, if applicable.
4. Revisions to vacuum relief valve vault details, if applicable.
5. Revisions to cathodic protection system, if applicable.
6. Proposed construction method and detailed plan of approach.
7. Location of access shafts, if applicable.
8. Proposed traffic control plan.
9. Revisions to material specifications.
10. Impact of revised alignment on hydraulic surge potential on line segment in question and all adjacent line segments, existing or proposed.

Failure of agreement between Contractor and Project Manager over proposed alternate construction methods would require construction to vertical and horizontal alignment, and details as per original contract documents.

1.22 ADDITIONAL CONDITIONS FOR SUBSTANTIAL COMPLETION

A. In addition to requirements outlined in Document 00700 – General Conditions, for Contractor to be substantially complete with the Work and call for inspection, Project Manager to confirm following conditions have been met or completed:

1. All pay items complete.

2. All testing shall be completed and accepted by Project Manager.
3. Notify Project Manager to complete Texas Department of Licensing and Regulation Post Construction Inspection of pedestrian elements for Texas Accessibility Standards
4. Draft O&M Manuals shall be delivered to Project Manager.
5. Training shall be conducted utilizing draft O&M manuals.
6. All safety-related systems and equipment shall be installed, accepted by manufacturer's representative and approved for use.
7. All safety related work including pavement striping, signing, and signalization to be complete.
8. No additional condition described in Paragraph 1.09 may be included in Contractor's punch list.

1.23 PIPELINES

A. Refer to Specification Section 02317- Excavation and Backfill for Utilities for specific requirements on excavating near pipelines.

1.24 SOIL CONDITIONS & ENVIRONMENTAL SITE ASSESSMENTS (ESA)

A. Bidder(s) must consider soil conditions and ESA findings provided in Geotechnical Report, Fault Investigation Report and ESA Phase I & II Reports, respectively. These reports have been provided on a CD, which is attached to the Project Manual.

1.25 POTENTIALLY PETROLEUM CONTAMINATED AREAS

A. No PPCA was identified within project limits. Refer to Phase I & Phase II ESA Reports prepared by Aviles Engineering Corp. for additional information.

B. Inform Project Manager of any observed soil contaminations. Where soil contamination exists, test soil needs and take proper action as described in Section 02105 - Chemical Sampling and Analysis and Section 02120 – Off-Site Transportation and Disposal.

1.26 SAFETY SYSTEMS

A. Drawings and any attendant drawings (including shop drawings, as built drawings or record drawings), addenda, change orders and specifications, prepared by Lockwood, Andrews & Newnam, Inc., do not extend to or include designs or systems pertaining to the safety of the construction contractor or its employees, agents, or representatives in their performance of the work. The seal of Lockwood, Andrews and Newnam's registered/licensed professional engineers hereon does not extend to any such safety systems that may now or

hereafter be incorporated in these plans. Prepare or obtain appropriate safety systems, including Drawings and specifications required by House Bill 662 and 665 enacted by the Texas Legislature.

1.27 UTILITY SERVICE LINES

A. Public utility service lines (water and sanitary sewer) not shown on Drawings. Anticipate such service lines exist and repair if damaged during construction. No separate pay will be made for repairs. The cost shall be incidental to the Work.

1.28 CENTERPOINT ENERGY ELECTRICAL FACILITIES

A. Overhead lines may exist on property. We have not attempted to mark those lines since they are clearly visible. All lines should be located prior to construction. Texas law, section 752, health & safety code, forbids all activities in which persons or things may come within six (6) feet of live overhead high voltage lines. Parties responsible for work, including contractors, are legally responsible for safety of construction workers under this law. This law carries both criminal and civil liability. To arrange for lines to be turned off or removed call Centerpoint Energy at (713) 207-2222.

B. Location of CenterPoint Energy electrical facilities, are approximate and have not been verified by actual field check

C. Hand dig within one (1) foot of CenterPoint Energy underground electrical facilities.

D. Overhead lines exist on and adjacent to project site, which may be live during construction period. Facilitate work so as not to interrupt services unless permitted by CenterPoint Energy.

E. Exercise caution when working in vicinity of CenterPoint Energy electrical cable, underground wiring and overhead lines.

F. When excavating within 5 feet and depth of 3 feet below existing grade of utility pole or anchor to which CenterPoint Energy facilities are attached, CenterPoint Energy will secure or brace these poles and anchor prior to excavation. Cost of CenterPoint Energy's efforts is incidental. No separate pay item.

1.29 CENTERPOINT ENERGY UNDERGROUND GAS FACILITIES

A. Locations of Center Point Energy main lines (to include United Gas

Transmission and/or Industrial Gas Supply Corporation where applicable) shown in an approximate location only. Service lines are usually shown. Contact Utility Coordinating Committee at (713) 223-4567 of 1-800-669-8344 a minimum of 48 hours prior to construction to have main and service lines field located.

B. When Center Point Energy pipeline markings are not visible, call (713)967-8037 (7:00 am to 4:30 pm) for status of line location request before excavation begins.

C. When excavating within eighteen inches (18") of the indicated location of CenterPoint Energy facilities, all excavation must be accomplished using non-mechanized excavation procedures.

D. When Center Point Energy facilities are exposed, sufficient support must be provided to facilities to prevent excessive stress on the piping.

E. Contractor is responsible for any damages caused by his failure to exactly locate and preserve these underground facilities.

F. All gas facilities are the property of CenterPoint Energy, unless otherwise noted.

1.30 AT&T TEXAS/SWBT (Telephone Facilities)

A. Locations of AT&T Texas/SWBT utilities are shown in approximate way only. Determine the exact location before commencing work. He agrees to be fully responsible for any damages and all damages, which might be occasioned by his failure to exactly locate and preserve these underground utilities.

B. Call 1-800-344-8377 minimum of 48 hours prior to construction to have underground lines field located.

C. When excavation within eighteen inches (18") of an indicated location of AT&T Texas/SWBT facilities, all excavations must be accomplished by using non-mechanized excavation procedures. When boring, contractor shall expose SBC facilities.

D. When AT&T Texas/SWBT facilities are exposed, contractor will provide support to prevent damage to conduit ducts or cables. When excavating near telephone poles, contractor shall brace pole for support. No separate pay.

1.31 TREE PROTECTION

A. Notify City of Houston Parks and Recreation Department representative Mr.

Dale Temple, City Forester, at (832) 395-2205, at least two (2) weeks in advance of clearing cutting or pruning any tree.

B. Adhere to requirements of Specification Section 01562 - Tree and Plant Protection, Section 02915 – Tree Planting, and Tree Protection Plan provided in Contract Drawings. Protect existing trees, landscaping, and sprinkler systems. Repair damaged sprinkler systems and replace damaged landscaping to original condition or better. No separate payment.

C. Live trees removed must be replaced with equivalent size in inches or with multiple trees whose cumulative size equates to size of tree being replaced. Tree replacement includes cost of new tree, installation, watering and warranty per Specification Section 02915, at no additional cost.

PART 2 PRODUCTS

2.01 TYPE OF PIPE FOR CONSTRUCTION OF WATER LINE

A. Drawings have been prepared on basis of Prestressed Concrete Cylinder Pipe (PCCP) except where specific pipe material is identified. Certain details pertaining to all types of pipe have been included when a specific difference exists. Include costs associated with changes in installation and construction, tie-ins, valves, vaults, and other appurtenances to accommodate alternate pipe in unit cost of water line construction.

B. Only one type of pipe material may be used where material alternates are allowed. When adjoining proposed large diameter water line to existing large diameter water line of different pipe material and/or coating, provide a flanged connection insulating kit, and isolation test station, unless otherwise approved by Project Manager. Specifications and design criteria have been provided for these types of pipe. It is Contractor's responsibility to ensure that type of pipe selected and resulting methods and means complies with requirements and limitations set forth herein and on Drawings including traffic control.

C. Fault Crossing Pipe Material:

Drawings for the fault crossing show couplings and special backfill have been prepared on basis of steel pipe with cement mortar coating and / or Lining. Following two alternatives can be used:

1. Steel pipe with cement mortar coating and/or lining with couplings and special backfill as shown in drawings.
2. Steel pipe with flexible coating and lining with standard backfill and without couplings.

However, the other fault design details like steel survey pipe and tunnel details will remain.

D. Unless specifically identified on Drawings, types of materials used are Contractor's option. Manufacturer and subcontractor selection are within Contractor's control and will not warrant time extensions due to failure to produce required deliverables within Contract Time. Extension of Contract Time due to non-delivery of Contractor's choice of pipe material, which affects Contractor's schedule, will not be allowed. Contractor to submit pipe material and other critical submittals in a timely manner to allow sufficient review time by Project Manager and to maintain construction schedule.

E. Call out for bends and fittings are not identified on Drawings in profile view. Provide bends and fittings as required complying with invert elevations shown in profile view of Drawings.

F. Clearly identify different pipe classes of the same pipe material using colored concrete or similar marking as approved by Project Manager.

G. Provide electrical isolation when adjoining to pipe with different material or coating. Coating on the welded restrained portions of the piping shall be identical to the coating on the adjoining pipe sections.

H. No separate payment for restrained or welded joints for large diameter water lines.

PART 3 E X E C U T I O N (Not Used)

END OF SECTION

Section 02518S

STEEL PIPE AND FITTINGS FOR LARGE DIAMETER WATER LINES

The following supplements modify Section 02518 - Steel Pipe and Fittings for Large Diameter Water Lines Standard Specification. Where a portion of the Specification is modified or deleted by this Supplementary Specification, the unaltered portions of the Specification shall remain in effect.

2.01 STEEL PIPE: Delete Paragraphs J.1 and replace with the following:

1. Standard field joints for steel pipe within FAA limits as shown on the drawings: joints may be lap- welded slip type in accordance with AWWA C206, except where flanged joints or butt strap joints are required.

   Remaining part of the project standard field joint for steel pipe: AWWA C206. Rubber gasket Carnegie shape joint or rolled-groove gasket and O-ring joint, 66-inch maximum diameter. Joints may be lap welded slip type in accordance with AWWA C206, except where flanged joints or butt strap joints are required.

Delete Paragraphs 2.01 J.4 and replace with the following:

4. Within FAA limits use all restrained joints. Remaining part of the project design restrained joints for test pressure or maximum surge pressure as specified, whichever is greater. Only minimum restrained joint length for prestressed concrete cylinder pipe are shown on drawings

Delete Paragraphs 2.01 J.8.a and 2.01 J.8.b and replace with the following:

a. Bells: Formed by either expansion of pipe end, or by segmental expander which stretches steel past its elastic limit, or by attaching sized weld-on bell rings. Weld-on bell rings shall comply with AWWA M11 and AWWA C200, attached with full-thickness fillet weld, welded inside or out. Minimum thickness of completed bell ring is equal to thickness of pipe wall in barrel of pipe between joint ends.

b. Spigots: Sized prior to rolling gasket groove. For Carnegie joints, attach with full-thickness fillet weld, welded inside or outside. Minimum thickness of joint ring shall be equal to or greater than thickness of pipe wall in barrel of pipe between joint ends.

Add the following Paragraph 2.01 J.9:

9. Use of an expanded bell with a Carnegie-style spigot is not allowed.

Delete Paragraph 2.01 H.1 and Replace with the following:

1. Design: Pipe and fittings to withstand most critical simultaneous application of external loads and internal pressure. Base design on minimum of FAA design live loading between STA 20+00 to 110+10 (END) on Monroe Road of the following:

   a. Spans of 2 feet and less in the least direction – a uniform load of 250 psi.
   b. Spans between 2 feet and 10 feet in the least direction – a uniform live load varying between 250 psi to 50 psi, in the portion of the span.
   c. Spans of 10 feet or greater in the least direction – the design should be based on the number of wheels that fit in the span (use B-757 for Hobby Airport).

   Remaining part of project shall be based on a minimum AASHTO HS-20 loading, or AREMA E-80 loads for rail crossings, and depths of bury as indicated on drawings. Design pipe with Marston's earth loads for transition width trench for all heights of cover.

2.04 EXTERNAL COATING SYSTEMS FOR BURIED STEEL PIPE: Add the following Paragraph to 2.04 A.3:

"Polyurethane coatings to extend completely to edge of pipe joint."

3.04 JOINTS AND JOINTING: Delete Paragraph 3.04 B.3 and Replace with the following:

3. Employ independent certified testing laboratory, approved by project manager, to perform weld acceptance tests on welded joints. Include cost of such testing in contract unit price for pipe line. Furnish copies of all test reports to project manager for review. For all Lap Welds and Fillet Welds test by magnetic particle and dye penetration methods. For all Butt Welds test by the X-ray method. Project manager has final decision as to suitability of welds tested

END OF SUPPLEMENT

Approved by:

Hamlet Hovsepian, P.E.
Assistant Director
Water Engineering Section
Engineering and Construction Division

4/15/13
Date